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**APPRECIATION**

This is to certify that Dr./Mr./Ms. Vikrant Prakash Kothari has presented / participated / contributed for a FLP length paper with the title A Review on Sustainable Planning and Design of Kelthan Village in the International Conference on Advances in Mechanical & Civil Engineering (IC-AMCE 2023) organized during February, 24th & 25th at Thakur College of Engineering and Technology, Kandivali (E), Mumbai.

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# A Review on Sustainable Planning And Design Of Kelthan Village

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**Abstract**—The sustainable development of rural regions in India is significant important since it aids in the effective increase of agricultural production and productivity.; hence, a specific balance in economic and social development should be maintained. This research paper examines the Kelthan village of Vijeshwari in Wada Taluka, Thane District, Maharashtra, India., which addresses the concerns and challenges pointed forth by current amenities and provides the best economical alternative. A survey was undertaken to determine several issues that the community was experiencing in the following areas - facilities, infrastructure, and renewable energy. Based on our understanding and research of the issues plaguing the community, the following recommendations were made – installing solar street lamps to illuminate the village, building a new biogas plant as a sustainable energy source, and modifying the current school building. Hence a survey was conducted to identify all the problems faced by the people and the following set of solutions were been proposed School, Biogas, and Solar Street lamps. Based on the survey results, we made the following decisions: to modify the current school building; construct a new biogas plant as a sustainable energy source; and install street lighting to illuminate the village. Therefore, improving the current school will aid in both the socioeconomic development of the community and the academic growth of the children. A biogas plant can assist in meeting the daily need for cooking gas, and the finished product can either be sold to create income or utilized as fertilizer. By installing solar street lighting in the community is expected to, it'll increase people's security and the safety of driving. This study will help in our understanding of rural regions' bad situations the issues faced by rural economies and significantly improve our ability to assist them in becoming sustainable.

**Keywords**—Biogas, LED street lamp, Proposal of redevelopment, Sustainability development.

## I INTRODUCTION

Sustainable development has the potential to drive economic growth in small villages, while concurrently preserving the environment and conserving resources for future generations. This can be accomplished through the adoption of environmentally conscious practices, such as the use of renewable energy sources, the conservation of natural resources, and the promotion of eco-friendly industries. Moreover, it serves to enhance the quality of life for those living in these villages by providing access to essential

amenities such as better infrastructure facilities, healthcare services, education, and employment opportunities. The project was carried out for a small village name Kelthan located in Palghar. The main aim of the project is to help in the sustainable development of the village. And by doing so we can help the people by providing the necessary animates, and infrastructure which is needed to satisfy both the present-day population and future generations. As a result, the community in that village will be able to sustain itself and avoid having to relocate due to a lack of basic resources and inadequate infrastructure in the rural areas [1].

This document presents a review of Sustainable development and planning of Small rural villages. The reviews are divided into four sections as follows. The First section, deals with the Sustainable Development and Planning Phase. The application of the Biogas plant is briefly described in the Second section. The Third section is based on the Is Codal provision used when designing a school. The Fourth Section gives a brief application of solar street lamps [2].

Table-1 Sustainable development

Author	Title	Summary	Finding
Anushka Umesh Sawarkar [3]	A CASE STUDY ON SELF-SUSTAINABLE VILLAGES OF IND	The primary goal of this case study is to comprehend the key factors that contributed to the growth of the villages. Due to water shortages, these villages' agricultural output was low, which had a negative impact on their economy. However, they were able to sustainably increase the economic power for the entire community today by applying the five concepts mentioned in the study	By putting into practice a few of these fundamental ideas such as the prohibition of grazing, family planning, the prohibition of tree cutting, and shramdan after village can become self-sufficient. The benefits of watershed management have spread to increase agricultural productivity, improve health and education, empower women, and maintain a clean environment